

AEROSPACE ENGINEERING BACHELOR OF SCIENCE

Leading to a Bachelor of Science Degree in Aerospace Engineering

The BS in Aerospace Engineering will combine rigorous theoretical foundations with hands-on, project-based learning. The aerospace engineering curriculum prepares students to enter the field ready to address real-world challenges in the design, development, and testing of aircraft, spacecraft, satellites, and rockets.

Program Educational Objectives

- Lifelong learning — Pursue professional development to meet and adapt to the emerging and evolving technology.
- Successful Careers — Embark on a successful career in the field of aerospace engineering or related fields.
- Professionalism — Graduates will contribute to their fields or professions.

Student Outcomes

- An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- An ability to communicate effectively with a range of audiences.
- An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

First Year

Fall Semester		Credits
ENGR1000	INTRODUCTION TO ENGINEERING	3
MATH1776	CALCULUS 1A	2
MATH1777	CALCULUS 1B	2
English Sequence		4
PHYS1250	ENGINEERING PHYSICS I	4
FYS1000	FIRST YEAR SEMINAR	1
Credits		16
Spring Semester		
ENGR1300	FIRST-YEAR ENGINEERING DESIGN	2
ENGR1406	APPLIED ENGINEERING ANALYSIS-BSEN	2
MATH1876	CALCULUS 2A	2

MATH1877	CALCULUS 2B	2
English Sequence*		4
PHYS1750	ENGINEERING PHYSICS II	4
Credits		16
Second Year		
Fall Semester		
MATH2600	DIFFERENTIAL EQUATIONS & LINEAR SYSTEMS	4
CHEM1100	GENERAL CHEMISTRY I	4
ENGR2100	PROGRAMMING FOR ENGINEERS	4
MECH2400	APPLIED MECHANICS	4
Credits		16
Spring Semester		
MATH2025	MULTIVARIABLE CALCULUS	4
MECH2270	THERMODYNAMICS	4
MECH2275	THERMODYNAMICS LAB	1
Social Science Elective		4
MECH2300	ENGINEERING GRAPHICS	3
COOP2500	INTRODUCTION TO COOPERATIVE EDUCATION	0
Credits		16
Summer Semester		
COOP3000	OPTIONAL COOP EDUCATION	
Credits		0
Third Year		
Fall Semester		
MATH2100	PROBABILITY & STATISTICS FOR ENGINEERS	4
MECH3100	ENGINEERING FLUID MECHANICS	4
MECH3550	AEROSPACE MATERIALS	4
AERO3100 - AIRCRAFT	New Course	4
Credits		16
Spring Semester		
COOP3500	COOP EDUCATION 1	0
Credits		0
Summer Semester		
MECH3850	ENGINEERING DYNAMICS	4
AERO3550 AERODYNAMICS	New Course	4
AERO3500 AEROSPACE	New Course	4
AERO3600 FLIGHT MECHANICS & CONTROL	New Course	4
Credits		16
Fourth Year		
Fall Semester		
COOP4500	COOP EDUCATION 2	0
Credits		0
Spring Semester		
ENGR5000	ENGINEERING SENIOR DESIGN I	4
Free Elective		4
Humanities Elective		4
AERO4050 ORBITAL MECHANICS	New Course	4
Credits		16

Summer Semester

ENGR5500	ENGINEERING SENIOR DESIGN II	4
AERO4600	ATTITUDE DETERMINATION AND CONTROL	4
HSS Elective		4
Free Elective		4
Credits		16
Total Credits		128

ENGL/HSS Note

Students are required to complete:

- At least one course in Humanities: CSAS, HSSI, HIST, HUMN, LITR and PHIL
- At least one course in the Social Sciences: CSAS, HSSI, COMM, ECON, ENVM, POLS, PSYC and SOCL
- The remaining course from either the Humanities or Social Sciences category.

Students with a three English course sequence may use the third English course to satisfy a Humanities requirement.

A minimum of 20 credits total, including English, humanities, and social science credit, is required to complete the humanities and social sciences graduation requirement.

Math Placement (<https://catalog.wit.edu/academic-policies-procedures/ug/math-placement/>) may alter the course schedule above.